

SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or immunologically active fragment thereof .

17. (Reiterated) A diagnostic test for a condition associated with expression of a polynucleotide encoding a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or immunologically active fragment thereof , comprising:

a) combining the biological sample with the polynucleotide encoding a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or immunologically active fragment thereof, under conditions suitable for the formation of hybridization complex; and

b) detecting the hybridization complex, wherein the presence of the complex correlates with expression of the polynucleotide of in the biological sample.

19. (Reiterated) An antibody which specifically binds to a polypeptide of Claim 18.

20. (Reiterated) A diagnostic test for a condition associated with the expression of a polypeptide of SEQ ID NO:2 in a biological sample comprising:

a) combining the biological sample with the antibody of Claim 19, under conditions suitable for the antibody to bind the polypeptide and form a complex; and

b) detecting the complex, wherein the presence of the complex correlates with the expression of the polypeptide in the biological sample.

21. (Reiterated) A method of preparing an antibody which specifically binds to a polypeptide of claim 18, comprising

a) immunizing an animal with said polypeptide or an antigenically-effective fragment thereof, under conditions whereby an antibody response is elicited; and

b) isolating from said immunized animal antibodies which specifically bind to said polypeptide.

22. (Reiterated) A purified antibody produced by a method of claim 21.

23. (Reiterated) A method of making a monoclonal antibody which specifically binds to a polypeptide of claim 18, comprising

- a) immunizing an animal with said polypeptide or antigenically-effective fragment thereof, under conditions whereby an antibody response is elicited;
- b) isolating antibody producing cells from said animal;
- c) fusing said antibody producing cells with immortalized cells in culture to form monoclonal antibody-producing hybridoma cells;
- d) culturing said hybridoma cells; and
- e) isolating from said culture monoclonal antibodies which specifically bind to said polypeptide.

24. (Reiterated) A monoclonal antibody produced by a method of claim 23.

25. (Reiterated) A method of screening a compound for effectiveness as an agonist of a polypeptide of claim 18, comprising the steps of

- a) contacting a sample containing said polypeptide with a compound, under conditions wherein agonist activity of said polypeptide can be detected, and
- b) detecting agonist activity in the sample.

26. (Reiterated) A pharmaceutical composition comprising an isolated agonist compound identified by a process of claim 25 and a pharmaceutically acceptable excipient.

27. (Reiterated) A method of screening a compound for effectiveness as an antagonist of a polypeptide of claim 18, comprising the steps of

- a) contacting a sample containing said polypeptide with a compound, under conditions wherein antagonist activity of said polypeptide can be detected, and
- b) detecting antagonist activity in the sample.

28. (Reiterated) A pharmaceutical composition comprising an isolated antagonist compound identified by a process of claim 27 and a pharmaceutically acceptable excipient.

29. (Reiterated) A method of treating a disease or condition associated with decreased expression of a functional polypeptide comprising the amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or functionally active fragment thereof, comprising administering to a patient in need of such treatment a pharmaceutical composition of claim 26.

30. (Reiterated) A method of treating a disease or condition associated with overexpression of a functional polypeptide comprising the amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or functionally active fragment thereof, comprising administering to a patient in need of such treatment a pharmaceutical composition of claim 28.

31. (Reiterated) A method of treating a disease or condition associated with overexpression of a functional polypeptide comprising the amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or functionally active fragment thereof, comprising administering to a patient in need of such treatment an antibody of claim 22.

32. (Reiterated) A method of treating a disease or condition associated with overexpression of a functional polypeptide comprising the amino acid sequence of SEQ ID NO:2 or a naturally occurring variant thereof, or a biologically or functionally active fragment thereof, comprising administering to a patient in need of such treatment a monoclonal antibody of claim 24.

33. (Reiterated) A diagnostic test of claim 20, wherein the disease or condition is leukemia or a malignant local tumor.

34. (Reiterated) An isolated polynucleotide comprising a sequence selected from the group consisting of:

- a) a polynucleotide sequence of SEQ ID NO:4,
- b) a naturally-occurring polynucleotide sequence having at least 90% sequence identity to the sequence of SEQ ID NO:4,
- c) a polynucleotide sequence complementary to a),
- d) a polynucleotide sequence complementary to b) and
- e) a ribonucleotide equivalent of a)-d).

35. (Reiterated) An isolated polynucleotide comprising at least 60 contiguous nucleic acids of claim 34.

36. (Reiterated) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 34, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and
- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

37. (Reiterated) A method of claim 36, wherein the probe comprises at least 60 contiguous nucleotides.

38. (Reiterated) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 34, the method comprising:

- a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and

b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

39. (Reiterated) A purified polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence of SEQ ID NO:2,
- b) an amino acid sequence having at least 90% sequence identity to the sequence of SEQ ID NO:2, wherein amino acid sequence is a member of the sca-2 family polypeptides,
- c) a biologically-active fragment of the amino acid sequence of SEQ ID NO:2, wherein said biologically-active fragment is a member of the sca-2 family polypeptides, and
- d) an immunogenic fragment of the amino acid sequence of SEQ ID NO:2, wherein said immunogenic fragment is capable of generating an antibody that specifically binds to the polypeptide encoded by SEQ ID NO:2.

Please add the following new claims:

40. (New) An isolated polypeptide of claim 39, having a sequence as depicted in SEQ ID NO:2.

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41. (New) A pharmaceutical composition comprising an effective amount of a polypeptide of claim 39 and a pharmaceutically acceptable excipient.

42. (New) A pharmaceutical composition comprising an effective amount of a polypeptide of claim 40 and a pharmaceutically acceptable excipient.
